UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2003/00495

August 13, 2003

Mr. Bob Graham
State Conservationist
Natural Resources Conservation Service
101 SW Main Street, Suite 1300
Portland, OR 97204-3221

Re: Endangered Species Act Formal Section 7 Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Fern Creek Wetland Restoration Project, Fern Creek, Little Luckiamute River Basin, Polk County, Oregon (NRCS Project Number 053-01-3254)

Dear Mr. Graham:

Enclosed is a biological opinion (Opinion) prepared by NOAA's National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act that addresses the proposed funding of the Fern Creek Wetland Restoration Project on Fern Creek, a tributary to the Little Luckiamute River south of Dallas, Oregon. NOAA Fisheries concludes in this Opinion that the proposed action is not likely to jeopardize Upper Willamette River steelhead (*Oncorhynchus mykiss*). This Opinion includes reasonable and prudent measures with terms and conditions that are necessary and appropriate to minimize the potential for incidental take associated with this project.

This document also serves as consultation on essential fish habitat (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 CFR Part 600. The Luckiamute River and tributaries has been designated as EFH for chinook salmon (*O. tshawytscha*).

If you have any questions regarding this consultation please contact Ron Lindland of my staff in the Oregon Habitat Branch at 503.231.2315.

Sincerely,

for D. Robert Lohn
Regional Administrator

cc: Deborah Virgovic, NRCS

Endangered Species Act - Section 7 Consultation
Biological Opinion

&

Magnuson-Stevens Fishery Conservation and Management Act
Essential Fish Habitat Consultation

Fern Creek Wetland Restoration Project
Fern Creek, Little Luckiamute River Basin,
Polk County, Oregon
(NRCS Project Number 053-01-3254)

Agency:	Natural Resources Conservation Service
Consultation Conducted By:	NOAA's National Marine Fisheries Service, Northwest Region
Date Issued:	August 13, 2003
Issued by:	for _____ D. Robert Lohn Regional Administrator
Refer to:	**2003/00495**

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1. INTRODUCTION

1.1 Consultation History

NOAA's National Marine Fisheries Service (NOAA Fisheries) received a letter and an attached complete biological assessment (BA) on May 1, 2003, from the Natural Resources Conservation Service (NRCS) requesting formal Endangered Species Act (ESA) and Magnuson-Stevens Fishery Conservation and Management Act (MSA) consultation on the effects of funding the proposed Fern Creek Wetland Restoration Project on Upper Willamette River (UWR) steelhead. The proposed project would be along Fern Creek (T8S, R6W, Section 25) which is a tributary to the Little Luckiamute River south of Dallas, Oregon. The NRCS determined in the BA that the proposed action is "likely to adversely affect" (LAA) UWR steelhead.

NOAA Fisheries listed UWR steelhead as threatened under the ESA on March 25, 1999 (64 FR 14517). NOAA Fisheries issued protective regulations for UWR steelhead under section 4(d) of the ESA on July 10, 2000 (65 FR 42422).

The proposed Fern Creek Wetland Restoration Project is funded jointly by NRCS under the Wetland Reserve Program and the private landowner. The private landowner, NRCS, U.S. Fish and Wildlife Service, and the Oregon Department of Fish and Wildlife (ODFW) have entered into a partnership to restore the site to a predominantly open prairie marsh. According to the BA, the project seeks to protect surface water from contaminant runoff and to improve wildlife habitat. The objective of this Opinion is to determine whether implementing the activities included in the Fern Creek Wetland Restoration Project are likely to jeopardize the continued existence of UWR steelhead.

The objective of the EFH consultation is to determine whether the proposed action may adversely affect designated EFH for UWR chinook salmon, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

1.2 Proposed Action

The proposed action is funding for the implementation of the Fern Creek Wetland Restoration Project. The project consists of the excavation of several shallow ponds, plantings of grasses and willows on areas disturbed by construction activities, and placement of large woody debris at selected sites on the ground and in the ponds.

Ephemeral Ponds

Eight ephemeral ponds, totaling approximately 9.6 acres in surface area, would be excavated in the lower elevations of the project site. Excavation will be done with a scraper, with maximum depth of the ponds being two feet or less. A total of approximately 12,000 cubic yards of material would be excavated. Approximately 4,700 cubic yards of material would be hauled off site, and the remaining 7,300 cubic yards of material will be used to construct low dikes around

the ponds. None of the spoil material would be placed within 100 feet of Fern Creek. The ponds range from approximately 150 to approximately 300 feet from Fern Creek. Based on design, each of the ephemeral ponds is expected to drain completely following Fern Creek flood events.

Six of these ponds would be on the west side of Fern Creek, and would be connected via narrow, shallow channels to an existing drainage ditch which enters Fern Creek at the downstream end of the project area. The channels connecting these ponds to the drainage ditch would be designed so the ponds would drain after flood events to minimize the risk of any fish entrapment in the ponds. In addition to the eight larger excavated ephemeral ponds, a string of several very small ponds would connect to the lowermost pond, referred to as Pond #6 in the BA, along the west side of, and over 100 feet from, Fern Creek. The bottom elevations of this string of ponds would be equal to or greater than the bottom elevation of Pond #6.

Two of the ephemeral ponds would be east of Fern Creek. These ponds would drain at their southern ends onto the existing ground surface, and would not have a channeled connection to Fern Creek.

The spoil material used to build the low dikes, each less than two feet high with 10:1 side slopes, next to the ephemeral ponds is expected to create a more diverse depth structure in the floodplain of Fern Creek, thus improving habitat for waterfowl.

Permanent (Long-Term) Ponds

Two permanent ponds totaling approximately 4.8 acres in surface area would be excavated in the higher elevations of the project site. These ponds would not be connected to Fern Creek. The ponds would have a maximum depth of up to six feet with an average depth of 1.5 feet; and are expected to hold some water into the early summer months. One pond would be west of Fern Creek, and one would be east. All spoils material would be placed at least 100 feet from Fern Creek.

For the pond on the west side of Fern Creek, approximately 3,980 cubic yards of material would excavated, with 2,840 cubic yards used to construct a dike around the lower end of the pond and 1,140 cubic yards hauled off-site. For the pond on the east side, approximately 1,900 cubic yards of material would be excavated, with 1,400 cubic yards used to construct a dike around the lower end of the pond and 500 cubic yards hauled off-site.

Both permanent ponds would contain a 6-inch diameter plastic pipe water control structure with a 2-foot tall riser to allow water to escape from the pond while preventing the possible entry of fish from below. Both long-term ponds will also include an emergency spillway channel to prevent dike breaching in case of extreme storm events. These spillways will be trapezoidal in cross-section with 10-foot wide bottoms and 3:1 (horizontal:vertical) or flatter slopes. The spillways would be seeded with grass. According to the BA, a 100-year probability storm event will create a depth of flow of 2.4 inches through these spillways.

Other Wetland Restoration

The pond dikes, spillways, and excavated pond bottoms will be seeded with native tufted hairgrass (*Deschampsia caespitosa*) at the rate of 3 to 6 pounds per acre. The shallow channels will be seeded with tufted hairgrass and also planted with Pacific willow (*Salix lasiandra*) and/or Scouler's willow (*S. scouleriana*) and/or Sitka willow (*S. sitchensis*) at a spacing of 2 feet by 2 feet in patches occupying approximately 20% of each channel. The grass will be seeded with a drill into the disturbed soil after the soil has been lightly tilled to prepare a seedbed in September. The willows will be planted in the form of non-rooted cuttings stuck into the soil in February and March.

Wildlife Upland Habitat Management

Approximately 30 bird and bat houses will be installed in the restored wetland area. As trees in the wetland area die and fall to the ground, they will be allowed to remain on the ground and decompose, thereby providing important habitat for amphibians, reptiles, small mammals, and invertebrates. Further, at least 20 pieces of large woody debris (stumps, logs, root wads) will be placed on the ground and in the ponds. The barbed wire fence separating Fields 1 and 2 will be removed from the project site, but the fence posts will be left in the ground to provide perches for birds or sites to place bird houses.

Two existing culverts under a farm road on the southern side of the project area will be left in place. According to the BA, these culverts allow water to drain from an organically-grown alfalfa field into the project area and are essential for continued farming operations and site access. Four existing culverts within the project area will be removed or plugged to restore a more natural hydrology to the area.

1.2.1 Minimization Measures

All earth-moving activities within 200 feet of Fern Creek will be completed within the preferred in-water work window for the Luckiamute River drainage between July 1 and September 30.

The ephemeral ponds to be excavated within the floodplain of Fern Creek and that are connected to Fern Creek via the existing drainage ditch would designed in such a way that they would drain completely following flood events; thereby avoiding or minimizing the potential for UWR steelhead to become stranded in the ponds.

The two permanent (long-term) ponds are outside the floodplain of Fern Creek. The main outlets for these ponds are through 6-inch diameter pipes with 2-foot tall risers. This makes entry of UWR steelhead into these ponds extremely unlikely.

2. ENDANGERED SPECIES ACT

2.1 Biological Opinion

2.1.1 Biological Information

The listing status and biological information for UWR steelhead are described in Busby *et al.* (1996). The Little Luckiamute River, to which Fern Creek is a tributary, provides spawning, rearing and migratory habitat for UWR steelhead. According to the BA, UWR steelhead may use Fern Creek as a refuge during winter flood flows. UWR steelhead do not reside in Fern Creek during summer months, because of low water levels.

Essential features of the adult spawning, juvenile rearing, and adult and juvenile migratory habitats for the species are substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food (juvenile only), riparian vegetation, space, and safe passage conditions. The essential features that the proposed project may affect are safe passage conditions, substrate, water quality, and riparian vegetation resulting from project activities.

2.1.2 Evaluating Proposed Action

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). In conducting analyses of habitat-altering actions under section 7 of the ESA, NOAA Fisheries uses the following steps of the consultation regulations combined with the Habitat Approach (NMFS 1999): (1) Consider the status and biological requirements of the species; (2) evaluate the relevance of the environmental baseline in the action area to the species' current status; (3) determine the effects of the proposed or continuing action on the species and whether the action is consistent with the available recovery strategy; (4) consider cumulative effects; and (5) determine whether the proposed action, in light of the above factors is likely to appreciably reduce the likelihood of species survival in the wild or destroy or adversely modify critical habitat. In completing this step of the analysis, NOAA Fisheries determines whether the action under consultation, together with cumulative effects when added to the environmental baseline, is likely to jeopardize the ESA-listed species or result in the destruction or adverse modification of critical habitat. If either or both are found, NOAA Fisheries will identify reasonable and prudent alternatives for the action that avoid jeopardy or destruction or adverse modification of critical habitat.

2.1.3 Biological Requirements

The first step in the methods NOAA Fisheries uses for applying the ESA section 7(a)(2) to listed salmonids is to define the species' biological requirements that are most relevant to each consultation. NOAA Fisheries also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NOAA Fisheries starts with information considered in its decision to list UWR

steelhead for ESA protection and also considers new data available that are relevant to the determination.

The relevant biological requirements are those necessary for UWR steelhead to survive and recover to naturally-reproducing population levels, at which time protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful adult and juvenile migration, spawning and rearing. UWR steelhead survival in the wild depends upon the proper functioning of certain ecosystem processes, including habitat formation and maintenance. Restoring functional habitats depends largely on allowing natural processes to increase their ecological function, while removing adverse impacts of current practices. In conducting analyses of habitat-altering actions, NOAA Fisheries defines the biological requirements in terms of a concept called Properly Functioning Condition (PFC) and applies a "habitat approach" to its analysis (NMFS 1999). The current status of the UWR steelhead, based upon their risk of extinction, has not significantly improved since they were listed.

2.1.4 Environmental Baseline

In step 2 of NOAA Fisheries' analysis, we evaluate the relevance of the environmental baseline in the action area to the species' current status. The environmental baseline is an analysis of the effects of past and ongoing human-caused and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area includes, "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The action area for this consultation, therefore, includes the east and west streambanks and the streambed of Fern Creek from the upstream edge of pond excavation activities and 300 feet downstream of the construction area.

The population status and trends for UWR steelhead are described in Busby *et al.* (1996). In general, the status of UWR steelhead populations is the result of several long-term, human-induced factors (*e.g.*, habitat degradation, water diversions, hydropower dams) that serve to exacerbate the adverse effects of natural environmental variability from such factors as drought, floods, and poor ocean conditions.

Environmental baseline conditions within the action area were evaluated for the subject action at the project level and watershed scales. This evaluation was based on the "matrix of pathways and indicators (MPI) described in "Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale" (NMFS 1996). This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species.

In the Fern Creek, NRCS rated six of the 17 habitat indicators in the MPI for which information was available as properly functioning. These were water temperature, physical barriers, width/depth ratio, streambank condition, floodplain connectivity, and stream influence zone (riparian area). Two of the 17 indicators were rated as functioning "at risk." These were peak/base flows and drainage network increase. The sediment, substrate, large woody debris, pool frequency, pool quality, off-channel habitat, refugia, road density and location, and disturbance history indicators were rated as not properly functioning. The environmental baseline conditions for each habitat indicator in the MPI are described in the BA and incorporated herein by reference.

2.1.5 Effects of Proposed Action

In step 3 of the jeopardy analysis, NOAA Fisheries evaluates the effects of the proposed action on listed fish and their habitat.

The pond excavation, channel excavation, and dike construction activities associated with the proposed Fern Creek Wetland Restoration Project have the potential to cause sediment transport to, and increase turbidity in, Fern Creek. None of the ponds would be connected directly to Fern Creek. The ephemeral ponds along the west side of Fern Creek would drain to an existing drainage ditch and any water draining from these ponds would then pass down the drainage ditch for over 500 feet before entering Fern Creek. All excavation activities that would occur within 200 feet of Fern Creek would be completed between July 1 and September 30 (dry season). Therefore, NOAA Fisheries believes that the proposed actions could cause a minor, short-term increase in stream turbidity in Fern Creek at the project site and for a short distance downstream.

Because of low water conditions in Fern Creek during the time when construction activities would be implemented, few, if any, juvenile UWR steelhead are expected to be present in Fern Creek or the existing drainage ditch. Therefore, direct effects of turbidity increases in Fern Creek on UWR steelhead would be minimal.

Because the ephemeral ponds to be excavated on both sides of Fern Creek are within the floodplain of the creek, there is some potential for UWR steelhead which may be in Fern Creek during high flow events to become stranded in the ponds as the ponds drain following the high flow events. Since ponds would be designed with drainage channels such that they would drain completely following high flow events, stranding of UWR steelhead in the ponds is expected to be avoided or minimized.

As with all construction activities, accidental release of fuel, oil, and other contaminants may occur. Operation of the scraper requires the use of fuels and lubricants which, if spilled in the stream channel or in the adjacent riparian area can injure or kill aquatic organisms. Petroleum-based contaminants, such as fuel, oil, and some hydraulic fluids, contain poly-cyclic aromatic hydrocarbons (PAHs) which can be acutely toxic to salmonids at high levels of exposure and can also cause chronic lethal and acute and chronic sublethal effects to aquatic organisms (Neff 1985). No instream work is proposed. Most excavation activities would occur over 100 feet

from Fern Creek. Therefore, the potential for any contaminants to enter Fern Creek from heavy equipment is low.

Potential beneficial effects over time resulting from the proposed Fern Creek Wetland Restoration Project include: (1) Improvement of water quality in Fern Creek as a result of filtration and storage of sediment and other potential water quality contaminants in the restored wetland area before runoff reaching Fern Creek; and (2) collection of surface runoff water in the ephemeral ponds is expected to help restore the shallow ground water flow path, reducing winter peak flows and increasing summer base flow in Fern Creek.

In summary, all relevant aquatic habitat indicators will be maintained or restored in Fern Creek at the project site. As discussed above, there could be short-term increases in turbidity in the Fern Creek at the project site as a result of ground-disturbing activities. There is a slight potential of a fuel spill at the site as the result of a vehicle accident during construction activities. In the long term, restoration of the wetland area is expected to improve water quality in Fern Creek at the project site and downstream.

2.1.6 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation". This is step 4 in NOAA Fisheries' analysis process. The proposed Fern Creek Wetland Restoration Project is entirely on private land.

NOAA Fisheries is not aware of any specific, future, Federal or non-federal activities within the proposed action area that would cause greater impacts to listed species or their habitat than presently occurs. NOAA Fisheries assumes that future private and state actions will continue at intensities similar to present levels.

2.1.7 Conclusion

The final step in NOAA Fisheries' approach to determine jeopardy is to determine whether the proposed action is likely to appreciably reduce the likelihood of species survival or recovery in the wild. NOAA Fisheries has determined that, when the effects of the proposed Fern Creek Wetland Restoration Project addressed in this Opinion are added to the environmental baseline and cumulative effects occurring in the action area, it is not likely to jeopardize the continued existence of UWR steelhead.

This conclusion is based on the following considerations: (1) All earth moving activities within 200 feet of Fern Creek will be completed within the preferred in-water work window for the Luckiamute River drainage between July 1 and September 30; (2) no in-water work would occur within Fern Creek; (3) turbidity increases in Fern Creek which may result from any sediment transport that does occur are expected to be of short duration; (4) ephemeral pond outlets would be designed such that the ponds would drain following high flow events and avoid or minimize

the potential for UWR steelhead to become stranded; (5) permanent ponds are all outside the floodplain and are not connected to Fern Creek; (6) filtration of runoff into Fern Creek by the restored wetland area is expected to improve water quality in Fern Creek and downstream; and (7) NOAA Fisheries expects that the net effect of the proposed action will be to maintain or help restore properly functioning habitat conditions in the project area of Fern Creek.

2.1.8 Conservation Recommendations

Section 7 (a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of proposed actions on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. NOAA Fisheries has no additional conservation recommendations regarding the action addressed in this Opinion.

2.1.9 Reinitiation of Consultation

Reinitiation of consultation is required if: (1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR. 402.16).

2.2 Incidental Take Statement

The ESA at section 9 [16 USC 1538] prohibits take of endangered species. The prohibition of take is extended to threatened anadromous salmonids by section 4(d) rule [50 CFR 223.203]. Take is defined by the statute as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." [16 USC 1532(19)] Harm is defined by regulation as "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavior patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering." [50 CFR 222.102] Harass is defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering." [50 CFR 17.3] Incidental take is defined as "takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant." [50 CFR 402.02] The ESA at section 7(o)(2) removes the prohibition from any incidental taking that is in compliance with the terms and conditions specified in a section 7(b)(4) incidental take statement [16 USC 1536].

An incidental take statement specifies the impact of any incidental taking of threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets

forth terms and conditions with which the action agency must comply to implement the reasonable and prudent measures.

2.2.1 Amount or Extent of the Take

NOAA Fisheries anticipates that the proposed action is reasonably certain to result in incidental take of UWR steelhead because of detrimental effects from increased sediment levels and limited riparian habitat disturbance (harm), and the slight potential for juvenile UWR steelhead to become stranded in the constructed ephemeral ponds following high flow events in Fern Creek..

Effects of actions such as minor sedimentation and minor riparian disturbance are unquantifiable in the short term and are not expected to be measurable as long-term harm to habitat features or by long-term harm to salmonid behavior or population levels. Design features in the ephemeral ponds are expected to avoid or minimize the potential for UWR steelhead to become stranded in the ponds after the ponds drain following high flow events in Fern Creek. Therefore, even though NOAA Fisheries expects some low level incidental take to occur due to the proposed actions covered by this Opinion, best scientific and commercial data available are not sufficient to enable NOAA Fisheries to estimate the specific amount of incidental take to the species itself. In instances such as these, NOAA Fisheries designates the expected level of take as "unquantifiable". Based on the information in the biological assessment, NOAA Fisheries anticipates that an unquantifiable amount of incidental take could occur as a result of the habitat altering actions covered by the Opinion. The extent of the take includes the aquatic and associated riparian habitats affected by the proposed project and is limited to the action area.

2.2.2 Reasonable and Prudent Measures

NOAA Fisheries believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species. The NRCS shall:

1. Avoid and minimize the likelihood of incidental take from activities involving use of heavy equipment, earthwork, or site restoration by directing the contractor to avoid or minimize disturbance to riparian and aquatic systems.

2. Minimize the likelihood of incidental take from proposed revegetation of areas disturbed by construction activities (*e.g.* dikes, pond banks and bottoms, channels and spillways).

3. Monitor the effectiveness of the Fern Creek Wetland Restoration Project in improving habitat conditions for UWR steelhead in Fern Creek.

2.2.3 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, The NRCS must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1 (heavy equipment, earthwork, or site restoration), the NRCS shall ensure that:

    a. Project design. The project will be reviewed to ensure that impacts to natural resources have been avoided, minimized and mitigated, and that the following overall project design conditions are met.
        i. Minimum area. Construction impacts will be confined to the minimum area necessary to complete the project.
        ii. Pollution and erosion control plan. A pollution and erosion control plan (PECP) will be developed for the project to prevent point-source pollution related to construction operations. The PECP will contain the pertinent elements listed below and meet requirements of all applicable laws and regulations.
            (1) Methods that will be used to prevent erosion and sedimentation associated with construction sites, equipment and material storage sites, fueling operations and staging areas.
            (2) Methods that will be used to confine, remove, and dispose of excess concrete, cement and other mortars or bonding agents, including measures for washout facilities.
            (3) A description of the hazardous products or materials that will be used, including inventory, storage, handling, and monitoring.
            (4) A spill containment and control plan with notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures will be available on site, proposed methods for disposal of spilled materials, and employee training for spill containment.
    b. Pre-construction activities. Before significant alteration of the action area, the following actions will be accomplished.
        i. Boundaries of the clearing limits associated with site access and construction are flagged to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.
        ii. The following erosion control materials are onsite.
            (1) A supply of erosion control materials (*e.g.*, silt fence and straw bales) is on hand to respond to sediment emergencies. Sterile straw or hay bales will be used when available to prevent introduction of weeds.

(2) An oil-absorbing, floating boom is available on-site during all phases of construction whenever surface water is present.

iii. All temporary erosion controls (*e.g.*, straw bales, silt fences) are in-place and appropriately installed downslope of project activities within the riparian area. Effective erosion control measures will be in-place at all times during the contract, and will remain and be maintained until such time that permanent erosion control measures are effective.

c. Heavy Equipment. Heavy equipment use will be restricted as follows.

i. When heavy equipment is required, the applicant will use equipment having the least impact (*e.g.*, minimally-sized, rubber-tired).

ii. Heavy equipment will be fueled, maintained and stored as follows.

(1) Place vehicle staging, maintenance, refueling, and fuel storage areas a minimum of 150 feet horizontal distance from any stream.

(2) All vehicles operated within 150 feet of any stream or waterbody will be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected will be repaired before the vehicle resumes operation.

(3) When not in use, vehicles will be stored in the vehicle staging area.

d. Earthwork. Earthwork, including drilling, blasting, excavation, dredging, filling and compacting, is completed in the following manner:

i. All exposed or disturbed areas will be stabilized to prevent erosion.

(1) Areas of bare soil within 150 feet of waterways, wetlands or other sensitive areas will be stabilized by native seeding,[1] mulching, and placement of erosion control blankets and mats, if applicable, quickly as reasonable after exposure, but within seven days of exposure. Non-native sterile seed mix may be used the first year for temporary erosion control.

(2) All other areas will be stabilized as quickly as reasonable, but within 14 days of exposure.

(3) Seeding outside of the growing season will not be considered adequate nor permanent stabilization.

ii. All erosion control devices will be inspected during construction to ensure that they are working adequately.

(1) Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites.

(2) If inspection shows that the erosion controls are ineffective, work crews will be mobilized immediately, during working and off-hours, to make repairs, install replacements, or install additional controls as necessary.

[1] By Executive Order 13112 (February 3, 1999), Federal agencies are not authorized to permit, fund or carry out actions that are likely to cause, or promote, the introduction or spread of invasive species. Therefore, only native vegetation that is indigenous to the project vicinity, or the region of the state where the project is, shall be used.

(3) Erosion control measures will be judged ineffective when turbidity plumes are evident in waters occupied by listed salmonids during any part of the year.

iii. If soil erosion and sediment resulting from construction activities is not effectively controlled, the engineer will limit the amount of disturbed area to that which can be adequately controlled.

iv. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground five inches. Catch basins will be maintained so that no more than six inches of sediment depth accumulates within traps or sumps.

v. Sediment-laden water created by construction activity will be filtered before it leaves the right-of-way or enters a stream or other waterbody. Silt fences or other detention methods will be installed as close as reasonable to culvert outlets to reduce the amount of sediment entering aquatic systems.

2. To implement reasonable and prudent measure #2 (revegetation), the NRCS shall ensure that revegetation at the project site is completed in the following manner:

a. All exposed soil surfaces, including construction access roads and associated staging areas, will be stabilized at finished grade with mulch, native herbaceous seeding, and native woody vegetation.

b. Disturbed areas will be planted with native vegetation specific to the project vicinity or the region of the state where the project is, and will comprise a diverse assemblage of woody and herbaceous species.

c. Plantings will be arranged randomly within the revegetation area. Approximate placement of trees will specified before construction begins.

i. If revegetation success has not been achieved after 3 years, the applicant will submit an alternative plan to the NRCS. The alternative plan will address temporal loss of function.

ii. Plant establishment monitoring will continue and plans will be submitted by the applicant to the NRCS until site restoration success has been achieved.

d. No herbicide application will occur within 300 feet of any stream channel as part of this permitted action, unless approved in advance by a NOAA Fisheries biologist. Mechanical removal of undesired vegetation and root nodes is permitted.

e. No surface application of fertilizer will be used within 50 feet of any stream channel as part of this permitted action.

3. To implement reasonable and prudent measure #3 (monitoring), the NRCS shall:

a. Within 90 days of completing the project, the NRCS will submit a monitoring report to NOAA Fisheries describing the NRCS's success meeting these terms and conditions. This report will consist of the following information:
   i. Project identification:
      (1) Project name.
      (2) Starting and ending dates of work completed for each phase of the project.
      (3) Name and address of the construction supervisor.
   ii. Photographic documentation of environmental conditions at the project site before, during and after project completion.

b. Additional project-specific data, as appropriate for each phase of the project.
   i. Site restoration:
      (1) Planting composition and density.
      (2) Control of invasive non-native vegetation.
      (3) Success of plantings.

c. Salvage notice. Include the following notice with each permit issued, or in writing to each party that will supervise completion of the action.

> NOTICE. If a sick, injured or dead specimen of a threatened or endangered species is found, the finder must notify the Vancouver Field Office of NOAA Fisheries Law Enforcement at 360.418.4246. The finder must take care in handling of sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

d. Monitoring reports will be submitted to:

NOAA Fisheries
Oregon Habitat Branch
Attn: 2003/00495
525 NE Oregon Street, Suite 500
Portland, OR 97232-2778

3. MAGNUSON-STEVENS ACT

3.1 Magnuson-Stevens Fishery Conservation and Management Act

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of EFH: "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50CFR600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;

- NOAA Fisheries shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH;

- Federal agencies shall within 30 days after receiving conservation recommendations from NOAA Fisheries provide a detailed response in writing to NOAA Fisheries regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the Federal agency shall explain its reason for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NOAA Fisheries is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.2 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: Chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other waterbodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.3 Proposed Action

The proposed action is detailed above in section 1.2 of this document. The action area includes Fern Creek in the Little Luckiamute River Basin. This area has been designated as EFH for various life stages of chinook salmon. According to the BA, UWR chinook salmon may occur in the Lower Luckiamute River approximately 12 miles downstream from the project site on Fern Creek.

3.4 Effects of Proposed Action

As described in detail in the ESA portion of this consultation, the proposed activities would result in detrimental, short-term, adverse effects to a variety of habitat parameters.

3.5 Conclusion

NOAA Fisheries believes that the proposed action will adversely affect the EFH for chinook salmon.

3.6 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the MSA, NOAA Fisheries is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. In addition to conservation measures proposed for the project by the NRCS, all of the reasonable and prudent measures and the terms and conditions contained in sections 2.2.2 and 2.2.3, respectively, of the ESA portion of this Opinion are applicable to salmon EFH. Therefore, NOAA Fisheries incorporates each of those measures here as EFH conservation recommendations.

3.7 Statutory Response Requirement

The MSA (section 305(b)) and 50 CFR 600.920(j) requires the MNF to provide a written response to NOAA Fisheries' EFH conservation recommendations within 30 days of its receipt of this letter. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. If the response is inconsistent with NOAA Fisheries' conservation recommendations, the NRCS shall explain its reasons for not following the recommendations.

3.8 Supplemental Consultation

The NRCS must reinitiate EFH consultation with NOAA Fisheries if either the action is substantially revised or new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920).

4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion in addition to the BA and additional information requested by NOAA Fisheries and provided by the MNF.

Busby, P., T. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, and I.V. Lagomarsino. 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California.

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NOAA Fisheries (National Marine Fisheries Service) 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon. September 4, 1996.

NOAA Fisheries (National Marine Fisheries Service). 1999. The Habitat Approach: Implementation ofSection 7 of the Endangered Species Act fo Actions Affecting the Habitat of Pacific Anadromous Salmonids. Guidance memorandum from Assistant Regional Administrators for Habitat Conservation and Protected Resources to staff. 3 pages. August. (Available @ www.nwr.noaa.gov , under Habitat Conservation Division, Habitat Guidance Documents).

PFMC (Pacific Fishery Management Council). 1999. Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and Identification of Essential Fish Habitat, Adverse Impacts and Recommended Conservation Measures for Salmon. Portland, Oregon.